

ABSTRACT OF THE DISCLOSURE

A plasma process apparatus for performing a plasma process on a target substrate 4 includes a process chamber 5 in which the target substrate 4 is installed, a gas inlet 6 for introducing a gas into the process chamber 5, and a plasma discharge production section 15 provided in the process chamber 5. The plasma discharge production section 15 includes a first electrode 2a and a second electrode 2b that is closer to the target substrate 4 than the first electrode 2a is. Only surfaces of the first electrode 2a and the second electrode 2b which can be seen in the normal line direction of the target substrate 4 function as plasma discharge surfaces. Thus, a high quality film is realized even at a low target substrate temperature, and the film formation is performed with high gas dissociation efficiency.